

A supplement to Australian Recent Turritellidae (Gastropoda: Mollusca)

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ABSTRACT

Additional information on eight species of Recent Australian Turritellidae is given, and four new species are described and named, two of these being species of *Colpospira* (*Acutospira*), one a species of *Colpospira* (*Platycolpus*), and one new species of *Glyptozaria*.

INTRODUCTION

Since publication of my "Revision of Australian Recent and Tertiary Turritellidae" (Garrard, 1972), extensive additional material has become available. Of the four new species obtained, three are from very deep water in Queensland and one from Western Australia.

Detailed general information regarding the family is not being repeated, this paper being merely a supplement to the earlier publication cited above.

Material. All the material referred to in this publication is housed in the Australian Museum, Sydney (A.M.S.), unless otherwise indicated.

SYSTEMATIC SECTION

Genus *Colpospira* Donald, 1900

Subgenus *Colpospira* s.s.

- Colpospira* (*Colpospira*) *deliciosa* (Watson, 1881)
1881 *Turritella deliciosa* Watson, *Jour. Linn. Soc. Lond., Zool.*, 15:226.
1886 *Turritella deliciosa* Watson, *Rep. Sci. Res. Challenger, Zool.*, 25:471, pl. 29, fig. 3.
1972 *Colpospira* (*Colpospira*) *deliciosa*. Garrard, *J. Malac. Soc. Aust.*, 2(3): 283, pl. 26, fig. 8.

One specimen only of this species has been found in 348-357 metres 40 km. E. of Lady Musgrave Is., Queensland (A.M.S. Reg'd. No. C125781), measuring 7.2 mm x 2.7 mm. One feature serving to identify this species, not mentioned by Watson, is that the two broad, rounded cords towards the top and base of each whorl tend to bifurcate to a small extent as the teleoconch reaches maturity. This is more evident in the Queensland specimen mentioned above than in the holotype, which is not quite mature, but this could of course prove later to be a variable feature.

Colpospira (Colpospira) indigena Garrard, 1972

1972 *Colpospira (Colpospira) indigena* Garrard, *J. malac. Soc. Aust.*, 2(3): 283, pl. 26, fig. 11.

A large number of specimens of this species has been obtained from the following localities: 73 metres off south end of Fraser Island, Queensland (1 specimen), A.M.S. Reg'd No. C. 125782; 69 metres, 3.2 km. N.E. of Gillett Cay, Swain Reefs (over 100 specimens), A.M.S. Reg'd. No. C.125783; 64 metres N.E. of Yeppoon, Queensland (1 specimen), A.M.S. Reg'd. No. C.125784. A number of these reveal fine irregular fawn spots on the top edge of the cords, which were not apparent in the original 7 specimens, and which give the shells a finely speckled appearance.

Colpospira (Colpospira) curialis Hedley, 1907

Fig. 1-3

1907 *Turritella curialis* Hedley, *Rec. Aust. Mus.*, 6:357, pl. 67, fig. 19.

1972 *Colpospira (Colpospira) curialis*. Garrard, *J. Malac. Soc. Aust.*, 2(3): 306, pl. 28, fig. 4-5.

Samples from the eastern Australian coast contain over 250 specimens of this species, in depths ranging from 360 metres down to the globigerine ooze in 1,650 metres, and a great variation in sculpture has been found. The range now known extends from the vicinity of Lady Musgrave Island, Queensland, to Sydney, N.S.W., with southern Queensland as the centre of its range. The available material has been compared with the holotype of *Colpospira crenulata* Donald, 1900, and syntypes of *Turritella joanne* Hedley, 1923, and both prove to be conspecific with *Turritella curialis* Hedley, 1907. The sculpture is extremely variable, the spiral cords numbering one, two or three, some smooth, some lightly or strongly nodular; other specimens are devoid of cords, but the base of each whorl imbricates over the whorl below; specimens vary from clear and glassy to translucent or opaque white; the operculum is still unknown.

Colpospira (Colpospira) translucida Garrard, 1972

1972 *Colpospira (Colpospira) translucida* Garrard, *J. Malac. Soc. Aust.*, 2(3): 288, pl. 26, fig. 16.

This species was only known previously from the type locality, south-west of Eucla, Western Australia, 79-140 metres, and from 64 km. south of Cape Wiles, South Australia, 183 metres. A further specimen has now come to hand from north of Port Davey, south-west Tasmania, in 155 metres (A.M.S. Reg'd. No. C. 125785).

Subgenus *Acutospira* Kotaka, 1959*Colpospira (Acutospira) reefiana* sp.nov.

Fig. 5-6

Description: Protoconch of two clear, glass-like whorls, smooth, rounded, with submerged nucleus. Teleoconch of 10 convex, strongly sculptured whorls, spire straight sided. Sutures strongly incised at base of deep narrow canal. Sculpture of two strong sharp keels, commencing on first whorl and of equal strength; upper keel one-third of whorl depth below upper suture, lower keel at base of whorl; a fine thread commences above upper keel and a second thread between keels from about fifth whorl onwards, followed by further threads above, between and on top of keels as they broaden with age. Aperture roundly quadrate, columella and inner-lip arcuate, outer-lip thin and crenulated by keels, base convex with broad open canal adjoining base of columella. Colour pale fawn, cream or white, translucent between keels. Operculum not available.

Type locality. 155 metres, Capricorn Channel, Queensland, (23° 08.6'S., 152° 16.6'E.), N.E. of Capricorn Group, in fine sand, mud and dead shell. (H.M.A.S. "Kimbla").

Dimensions. Holotype, length 7.6 mm., breadth 2.5 mm. (Largest specimen).

Location of type. A.M.S., Reg'd. No. C.123850.

Distribution. Type locality, holotype and 12 paratypes, also 62 metres off Bowen, Queensland, fine sand and mud, one paratype, A.M.S. Reg'd. No. C.125786.

Remarks. This new species cannot be confused with any existing species in the subgenus *C. (A.) atkinsoni* (Tate and May, 1900) from southern States grows to twice the length, and the three heavy prominent keels alone serve to separate it without difficulty. Likewise *C. (A.) smithiana* (Donald, 1900), from southern Queensland southwards, has four prominent main keels compared with only two in this new species. The other new species in the subgenus, *C. (A.) swainsiana* nov., is compared in the remarks following the description below.

Colpospira (Acutospira) swainsiana sp. nov.

Fig. 4.

Description: Protoconch of 1½ translucent white whorls, depressed, nucleus a little submerged. Teleoconch of 11 whorls, first six slightly concave, the rest a little convex, spire slightly concave. Sutures sharply incised at base of narrow canal. Sculpture commences with a strong prominent keel at top of whorls, inclined to be roughly nodular in some specimens; a second keel appears towards base of whorls, usually from fifth whorl onwards, increasing in strength until equally prominent with first keel from seventh whorl onwards; upper keel descends until both are equally spaced between upper and lower sutures — lower keel bifurcates on body-whorl; base of shell flatly convex with up to seven fine striae crossed by numerous microscopic growth lines. Aperture sub-quadrate, columella thin and vertical, narrow but flared open canal at base of columella, outer-lip crenulated by keels, arc orthocone. Colour opaque white, shining.

Type locality. 284 metres, east of North West Island, Queensland (23° 15.2'S., 152° 24.1'E.), in globigerine mud, (H.M.A.S. "Kimbla"), a total of 245 specimens.

Dimensions. Holotype, length 5.5 mm., breadth 1.8 mm. Largest specimen examined, length 9.4 mm., breadth 2.9 mm.

Location of type. A.M.S., Reg'd. NO. C.123854.

Distribution. In addition to type locality, a further three paratypes off Swain Reefs, A.M.S. Reg'd No. C. 125787; a further 280 paratypes off Lady Musgrave Island, 115-365 metres, in globigerine ooze and silicious sponge, A.M.S. Reg'd. No. C.125788-9.90; remaining 244 paratypes from type locality, A.M.S. Reg'd. No. C.125791-2.

Remarks. This new species has two prominent keels on each whorl similarly to *C. (A.) reefiana* nov. above, but one keel only appears at top of the first four whorls, the second following below it from the fifth whorl onwards. In addition this smaller species is opaque white and shining, compared with the pale cream or fawn colour, translucent between the keels, in *C. (A.) reefiana* nov., also the lower keel bifurcates on the body-whorl and extends round almost to the base of the columella, leaving a distinct narrow flared canal between the columella and basal lip of the aperture.

Subgenus *Platycolpus* Donald, 1900

Colpospira (Platycolpus) congelata (A. Adams and Reeve, 1848)

1848 *Turritella congelata* A. Adams and Reeve, *Voy. Samarang*, Zool., p. 47, pl. 12, fig. 2.
1972 *Colpospira (Platycolpus) congelata*. Gerrard, *J. Malac. Soc. Aust.*, 2(3): 301, pl. 27, fig. 13.

Apart from the only two localities formerly recorded for this species, near Long Island, Onslow, and Delambre, Dampier Archipelago, Western Australia, a further five specimens have now been obtained from 869 km. north of Gladstone, Queensland, near Kelso Reef, in 91 metres (B.M.R. "Espirito Santo"). This possibly points to the existence of the species round the whole northern Australian coastline.

Colpospira (Platycolpus) musgravia sp. nov.

Fig. 7.

Description: Protoconch of two convex smooth, white whorls, nucleus slightly submerged. Teleoconch of 17 whorls, flat, spire straight-sided, sutures deeply incised. Sculpture commences with one strong spiral striation near base of whorl with two fine threads above, and a third thread commencing on fourth whorl; the three spirals become

progressively stronger and beaded, with a fine thread between each, whilst the strong cord at base becomes even more pronounced, striated with numerous traces of outer-lip sinus, and imbricating over the lower suture. *Aperture* rectangular, columella vertical, inner-lip reflecting slightly at base. *Base* of shell flat, with up to 12 fine spiral striae. *Colour* dull white with regular patches of curved light orange flames conforming to shape of outer-lip. *Operculum* unknown.

Type locality. 365 metres north-east of Lady Musgrave Island, Queensland (23° 38.8' S., 152° 45.5'E.), in globigerine mud and silicious sponge. (H.M.A.S. "Kimbla").

Dimensions. Holotype, length 17.3mm., breadth 4.9mm. Largest specimen examined, length 17.5 mm., breadth 5.4 mm.

Location of type. A.M.S. Reg'd. No. C.123853.

Distribution. From North West Island, northern end of Capricorn Group, Queensland, south-eastwards to Lady Musgrave Island, Bunker Group.

Material. Type locality, holotype and three paratypes, A.M.S. Reg'd. No. C.125794; east of North West Island, 320 metres in globigerine mud, 27 paratypes, A.M.S. Reg'd. No. C.125795, and a further 13 paratypes, Reg'd. No. C.125796; east of Lady Musgrave Island, 339-348 metres, 16 paratypes, A.M.S. Reg'd. No. C.125797, and 348-357 metres Reg'd. No. C.125798.

Remarks. This species in fair to good condition does not bear much resemblance to any other known species in the subgenus. The numerous and regular cords and threads set it quite apart from *C. (Platycolpus) quadrata* (Donald), with its very deep V-notch at sutures, and two ridges at top and base of each whorl; *C. (Platycolpus) circumligata* (Verco) also bears no resemblance, with its two very heavy cords at top and base of each whorl, which is a rare species from South Australia and Bass Strait. The only other species in the subgenus is *C. (Platycolpus) congelata* (A. Adams and Reeve) from the China Sea and Western Australian coast, which also has three main spirals, but shows no sign of the strong beading in this new species. The spirals in *C. (P.) congelata* (A. Adams and Reeve) are lightly tipped with yellow-brown, as compared with the patches of curved orange flames in this new species. All specimens collected by H.M.A.S. "Kimbla."

Genus *Haustator* Montfort, 1810

Subgenus *Kurosoioia* Ida, 1952

Haustator (Kurosoioia) leeuwinensis Garrard, 1972

1972 *Haustator (Kurosoioia) leeuwinensis* Garrard, *J. Malac. Soc. Aust.*, 2(3): 319, pl. 29, fig. 6.

Apart from the 24 specimens recorded in 1972 from five localities, all in Western Australia, new localities now recorded are: 94 metres off North West Cape, W.A. (12 specimens); 91-110 metres off Point Cloates, W.A. (1 specimen); 225 km. north of Cape Leveque, W.A., 124 metres (1 specimen); Sahul Banks, Timor Sea, N.W. Australia, 27 metres (11 specimens).

Subfamily Turritellopsinae Marwick, 1957

Genus *Glyptozaria* Iredale, 1924

Glyptozaria westralia sp. nov.

Fig. 8

Description. *Protoconch* relatively large, of 1½ whorls, large but partly submerged nucleus. *Teleoconch* of seven whorls, roundly convex, deeply indented at sutures, spire straight sided. *Sutures* impressed at base of deep narrow canal, a few of the axial riblets overlapping a little onto adjoining whorls. *Sculpture* — A spiral cord commences imperceptibly in centre of first whorl, accompanied by a second cord on third whorl between it and the lower suture; a third weak spiral becomes visible about fourth or fifth whorl above the central cord, all three becoming of equal strength on body-whorl; all whorls are crossed by fine but prominent axial ribs, about 40 on body-whorl, slightly curved in line with outer-lip sinus, and forming fine nodules at intersections with cords. *Aperture* elliptical, columella and inner-lip arcuate, outer lip crenulated by cords, a slight

open canal flaring outwards near junction with columella. Base of shell slightly convex, with a narrow canal at perimeter and a second in centre, crossed by continuation of the fine axial riblets, curved left before reaching base of columella. Colour translucent white. Operculum not known.

Type locality. 158 metres east of Hood Point, Western Australia (121° 31' E., 34° 32' S.) H.M.A.S. "Gascoyne" 1962.

Dimensions. Holotype, length 4.1 mm., breadth 1.1 mm. Paratype length 3.7 mm., breadth 1.0 mm. (6 whorls).

Location of type. A.M.S. Reg'd. No. C.123852. Paratype A.M.S. Reg'd. No. C.125800.

Distribution. Type locality only.

Material. Holotype and one paratype only as above.

Discussion. Compared with *Glyptozaria opulenta* (Hedley, 1907), this new species has far finer and more densely packed axial riblets, four closely spaced and much finer spirals compared with the two prominent main spirals in *Glyptozaria opulenta* (Hedley), and it is only two-thirds the width of that species in an equal length. The two sub-central cords of *Glyptozaria columnaria* Cotton and Woods, 1935, likewise are far more prominent than the four very thin cords in this new species, and the whorls are nearly twice as wide as they are high, compared with the little difference in height in relation to the width of the whorls in the new species.

Glyptozaria opulenta (Hedley, 1907)

1907 *Glyptozaria opulenta* Hedley, *Rec. Aust. Mus.*, 6:292, pl. 54, fig. 9.

1972 *Glyptozaria opulenta*. Garrard, *J. Malac. Soc. Aust.*, 2(3): 332, pl. 29, fig. 15.

The distribution pattern of this species has been extended much further north by the acquisition of specimens from the following localities:

Albany Passage, Torres Strait, 7-25 metres, 1 specimen. N.E. of Yeppoon, Queensland, 64 metres, 1 specimen, (m.v. "San Pedro Strait").

East of North West Island, Queensland, 320 metres in globigerine mud, 1 specimen (H.M.A.S. "Kimbla").

NOTE: The genus *Glyptozaria* has since been transferred to the family Cerithiidae. Reference is: HOUBRICK, R.S., 1981, *Proc. Biol. Soc. Wash.*, 94(3): 838-849/

Genus *Kimberia* Cotton and Woods, 1935

Kimberia kimberi (Verco, 1908)

1908 *Turritella kimberi* Verco, *Trans. R. Soc. S. Aust.*, 32:342, pl. 15, figs. 14, 15.

1972 *Kimberia kimberi*. Garrard, *J. Malac. Soc. Aust.*, 2(3): 335, pl. 30, fig. 1.

This species is now shown to have a greatly extended range, by the acquisition of one specimen in 9-15 metres off Murray Island, Torres Strait, and one further specimen in 115 metres north-east of North Reef, Queensland (H.M.A.S. "Kimbla").

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British Museum (Natural History), London, forwarded on loan the following holotypes:

Colpospira (Colpospira) deliciosa (Watson, 1881)

Colpospira (Colpospira) curialis (Hedley, 1907)

Colpospira (Colpospira) joannae (Hedley, 1923)

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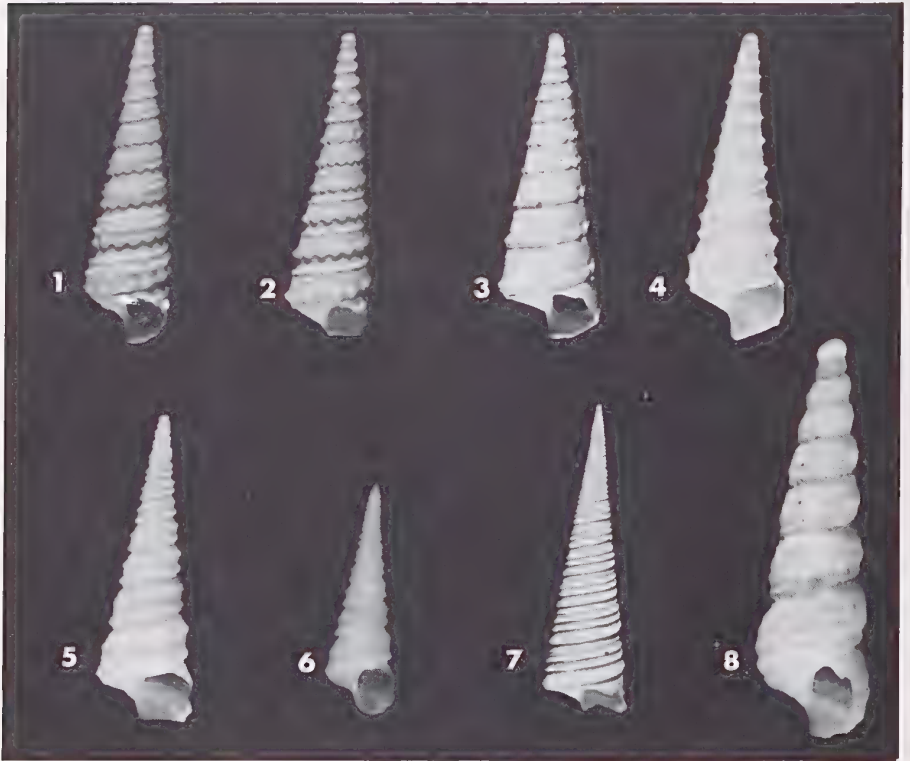
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1. *Colpospira* (*Colpospira*) *curialis* (Hedley, 1923). East of Lady Elliott Island, Queensland, 476-531 metres, grey ooze/sand. 5.8 mm. x 1.5 mm.
2. *Colpospira* (*Colpospira*) *curialis* (Hedley, 1923). Locality as above. 6 mm. x 1.7 mm.
3. *Colpospira* (*Colpospira*) *curialis* (Hedley, 1923). Off Sydney, N.S.W., 384 metres, sandy mud/fine shell. 7.4 mm. x 2.4 mm.
4. *Colpospira* (*Acutospira*) *swainsiana* nov. 284 metres E. of North West Island, Queensland. Holotype, 5.5 mm. x 1.8 mm.
5. *Colpospira* (*Acutospira*) *reefiana* nov. 155 metres Capricorn Channel, Queensland, N.E. of Capricorn Group. Holotype, 7.6 mm x 2.5 mm.
6. *Colpospira* (*Acutospira*) *reefiana* nov. (Showing complete basal lip).
7. *Colpospira* (*Platycolpus*) *musgravia* nov. 365 metres N.E. of Lady Musgrave Island, Queensland. Holotype, 17.3 mm. x 4.9 mm.
8. *Glyptozaria* *westralia* nov. 158 metres E. of Hood Point, Western Australia. Holotype, 4.1 mm x 1.1 mm.